

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows.

1. (Currently Amended) A gallium nitride (GaN)-based compound semiconductor device, comprising:

a GaN-based light emitting member;

a buffer layer adjacent to the light emitting member; and

a strained layer superlattice (SLS) clad layer,

wherein the light emitting member comprises a multilayer quantum well structure including

an InGaN well layer and an AlInGaN barrier layer,

wherein a compositional ratio of Al in the AlInGaN barrier layer is 14% or greater and 40%

or smaller, and a compositional ratio of In in the AlInGaN barrier layer is 0.1% or

greater and 5% or smaller, [[and]]

wherein the GaN-based light emitting member emits ultraviolet light having a wavelength of

375 nm or shorter,

wherein the multilayer comprises at least two of the InGaN well layers and two of the

AlGaN barrier layers, in which the AlGaN well layers and AlGaN barrier layers are

alternately layered, and

wherein a thickness of each of the InGaN well layer is 1 nm or greater and 2 nm or smaller.

2. (Previously Presented) The GaN-based compound semiconductor device according to claim 1, wherein a compositional ratio of In in the InGaN well layer is 5% or greater and 15% or smaller.

3. (Previously Presented) The GaN-based compound semiconductor device according to claim 1, wherein a compositional ratio of In in the InGaN well layer is 5% or greater and 13% or smaller.

4. (Canceled)

5. (Currently Amended) The GaN-based compound semiconductor device according to claim 1, wherein the thickness of the InGaN well layer is between 1.3 nm and 1.8 nm.

6. (Canceled)

7. (Previously Presented) The GaN-based compound semiconductor device according to claim 1, wherein a compositional ratio of Al in the AlInGaN barrier layer is between 16% and 40%, and a compositional ratio of In in the AlInGaN barrier layer is between 0.1% and 3%.

8. (Previously Presented) The GaN-based compound semiconductor device according to claim 1, wherein the buffer layer adjacent to the light emitting member is an AlInGaN buffer layer.

9. (Currently Amended) A gallium nitride (GaN)-based compound semiconductor device, comprising:

a GaN-based light emitting member;

an AlInGaN buffer layer adjacent to the light emitting member; and

a strained layer superlattice (SLS) clad layer,

wherein the light emitting member comprises a multilayer quantum well structure including

at least one InGaN well layer and at least one AlInGaN barrier layer,

wherein a compositional ratio of Al in the AlInGaN buffer layer is 0.5% or greater and 40% or smaller, and a compositional ratio of In in the AlInGaN buffer layer is 0.1% or greater and 5% or smaller,

wherein a compositional ratio of Al in the AlInGaN barrier layer is 14% or greater and 40% or smaller, and a compositional ratio of In in the AlInGaN barrier layer is 0.1% or greater and 5% or smaller, [[and]]

wherein the GaN-based light emitting member emits ultraviolet light having a wavelength of 375 nm or shorter,

wherein the multilayer comprises at least two of the InGaN well layers and two of the AlGaN barrier layers, in which the AlGaN well layers and AlGaN barrier layers are alternately layered, and

wherein a thickness of each of the InGaN well layer is 1 nm or greater and 2 nm or smaller.

10. (Previously Presented) The GaN-based compound semiconductor device according to claim 9, wherein a compositional ratio of Al in the AlInGaN buffer layer is between 1% and 40%, and a compositional ratio of In in the AlInGaN buffer layer is between 0.1% and 3%.

11. (Previously Presented) The GaN-based compound semiconductor device according to claim 1, wherein the InGaN well layer and the AlInGaN barrier layer are formed at a temperature of 750° C or greater.

12. (Canceled)

13. (Previously Presented) The GaN-based semiconductor compound semiconductor device according to claim 1, wherein the SLS clad layer is an n-clad layer.

14. (Previously Presented) The GaN-based semiconductor compound semiconductor device according to claim 13, wherein the SLS clad layer comprises alternately layered n-GaN and n-AlGaN.

15. (Previously Presented) The GaN-based semiconductor compound semiconductor device according to claim 13, further comprising a p-type SLS clad layer.

16. (Canceled)